RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _____ 10/573,909

Source: _____ PCT

Date Processed by STIC: _____ 04/07/2006

ENTERED

PCT

RAW SEQUENCE LISTING   DATE: 04/07/2006
PATENT APPLICATION: US/10/573,909   TIME: 14:56:36

Input Set : A:\9237.10WO.ST25.txt
Output Set: N:\CRF4\04072006\J573909.raw

```
  3 <110> APPLICANT: University of Texas Health Science Center at San Antonio
  4       Baseman, Joel
  5       Kannan, Thirumalai
  7 <120> TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR MYCOPLASMA PNEUMONIAE EXOTOXINS
  9 <130> FILE REFERENCE: 9237.10WO
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/573,909
C--> 11 <141> CURRENT FILING DATE: 2006-03-29
 11 <150> PRIOR APPLICATION NUMBER: US 60/508,607
 12 <151> PRIOR FILING DATE: 2003-10-03
 14 <160> NUMBER OF SEQ ID NOS· 76
 16 <170> SOFTWARE: Patentin version 3.2
 18 <210> SEQ ID NO: 1
 19 <211> LENGTH: 591
 20 <212> TYPE: PRT
 21 <213> ORGANISM: Mycoplasma pneumoniae
 23 <400> SEQUENCE: 1
 25 Met Pro Asn Pro Val Arg Phe Val Tyr Arg Val Asp Leu Arg Ser Pro
 26 1               5                  10                 15
 29 Glu Glu Ile Phe Glu His Gly Phe Ser Thr Leu Gly Asp Val Arg Asn
 30             20                  25                 30
 33 Phe Phe Glu His Ile Leu Ser Thr Asn Phe Gly Arg Ser Tyr Phe Ile
 34         35                  40                  45
 37 Ser Thr Ser Glu Thr Pro Thr Ala Ala Ile Arg Phe Phe Gly Ser Trp
 38     50                  55                  60
 41 Leu Arg Glu Tyr Val Pro Glu His Pro Arg Arg Ala Tyr Leu Tyr Glu
 42 65                  70                  75                  80
 45 Ile Arg Ala Asp Gln His Phe Tyr Asn Ala Arg Ala Thr Gly Glu Asn
 46             85                  90                  95
 49 Leu Leu Asp Leu Met Arg Gln Arg Gln Val Val Phe Asp Ser Gly Asp
 50             100                 105                 110
 53 Arg Glu Met Ala Gln Met Gly Ile Arg Ala Leu Arg Thr Ser Phe Ala
 54             115                 120                 125
 57 Tyr Gln Arg Glu Trp Phe Thr Asp Gly Pro Ile Ala Ala Ala Asn Val
 58     130                 135                 140
 61 Arg Ser Ala Trp Leu Val Asp Ala Val Pro Val Glu Pro Gly His Ala
 62 145                 150                 155                 160
 65 His His Pro Ala Gly Arg Val Val Glu Thr Thr Arg Ile Asn Glu Pro
 66             165                 170                 175
 69 Glu Met His Asn Pro His Tyr Gln Glu Leu Gln Thr Gln Ala Asn Asp
 70             180                 185                 190
 73 Gln Pro Trp Leu Pro Thr Pro Gly Ile Ala Thr Pro Val His Leu Ser
 74             195                 200                 205
 77 Ile Pro Gln Ala Ala Ser Val Ala Asp Val Ser Glu Gly Thr Ser Ala
```

RAW SEQUENCE LISTING   DATE: 04/07/2006
PATENT APPLICATION: US/10/573,909   TIME: 14:56:36

Input Set : A:\9237.10WO.ST25.txt
Output Set: N:\CRF4\04072006\J573909.raw

```
78    210                 215                 220
81 Ser Leu Ser Phe Ala Cys Pro Asp Trp Ser Pro Pro Ser Ser Asn Gly
82 225                 230                 235                 240
85 Glu Asn Pro Leu Asp Lys Cys Ile Ala Glu Lys Ile Asp Asn Tyr Asn
86                 245                 250                 255
89 Leu Gln Ser Leu Pro Gln Tyr Ala Ser Ser Val Lys Glu Leu Glu Asp
90                 260                 265                 270
93 Thr Pro Val Tyr Leu Arg Gly Ile Lys Thr Gln Lys Thr Phe Met Leu
94            275                 280                 285
97 Gln Ala Asp Pro Gln Asn Asn Asn Val Phe Leu Val Glu Val Asn Pro
98     290                 295                 300
101 Lys Gln Lys Ser Ser Phe Pro Gln Thr Ile Phe Phe Trp Asp Val Tyr
102 305                 310                 315                 320
105 Gln Arg Ile Cys Leu Lys Asp Leu Thr Gly Ala Gln Ile Ser Leu Ser
106                 325                 330                 335
109 Leu Thr Ala Phe Thr Thr Gln Tyr Ala Gly Gln Leu Lys Val His Leu
110                 340                 345                 350
113 Ser Val Ser Ala Val Asn Ala Val Asn Gln Lys Trp Lys Met Thr Pro
114            355                 360                 365
117 Gln Asp Ile Ala Ile Thr Gln Phe Arg Val Ser Ser Glu Leu Leu Gly
118    370                 375                 380
121 Gln Thr Glu Asn Gly Leu Phe Trp Asn Thr Lys Ser Gly Gly Ser Gln
122 385                 390                 395                 400
125 His Asp Leu Tyr Val Cys Pro Leu Lys Asn Pro Pro Ser Asp Leu Glu
126                 405                 410                 415
129 Glu Leu Gln Ile Ile Val Asp Glu Cys Thr Thr His Ala Gln Phe Val
130            420                 425                 430
133 Thr Met Arg Ala Ala Ser Thr Phe Phe Val Asp Val Gln Leu Gly Trp
134            435                 440                 445
137 Tyr Trp Arg Gly Tyr Tyr Tyr Thr Pro Gln Leu Ser Gly Trp Ser Tyr
138    450                 455                 460
141 Gln Met Lys Thr Pro Asp Gly Gln Ile Phe Tyr Asp Leu Lys Thr Ser
142 465                 470                 475                 480
145 Lys Ile Phe Phe Val Gln Asp Asn Gln Asn Val Phe Phe Leu His Asn
146                 485                 490                 495
149 Lys Leu Asn Lys Gln Thr Gly Tyr Ser Trp Asp Trp Val Glu Trp Leu
150            500                 505                 510
153 Lys His Asp Met Asn Glu Asp Lys Asp Glu Asn Phe Lys Trp Tyr Phe
154    515                 520                 525
157 Ser Arg Asp Asp Leu Thr Ile Pro Ser Val Glu Gly Leu Asn Phe Arg
158    530                 535                 540
161 His Ile Arg Cys Tyr Ala Asp Asn Gln Gln Leu Lys Val Ile Ile Ser
162 545                 550                 555                 560
165 Gly Ser Arg Trp Gly Gly Trp Tyr Ser Thr Tyr Asp Lys Val Glu Ser
166                 565                 570                 575
169 Asn Val Glu Asp Lys Ile Leu Val Lys Asp Gly Phe Asp Arg Phe
170    580                 585                 590
173 <210> SEQ ID NO: 2
174 <211> LENGTH: 591
```

```
175 <212> TYPE: PRT
176 <213> ORGANISM: Mycoplasma pneumoniae
178 <400> SEQUENCE: 2
180 Met Pro Asn Pro Val Arg Phe Val Tyr Arg Val Asp Leu Arg Ser Pro
181 1               5                  10                  15
184 Glu Glu Ile Phe Glu His Gly Phe Ser Thr Leu Gly Asp Val Arg Asn
185             20                  25                  30
188 Phe Phe Glu His Ile Pro Ser Thr Asn Phe Gly Arg Ser Tyr Phe Ile
189         35                  40                  45
192 Ser Thr Ser Glu Thr Pro Thr Ala Ala Ile Arg Phe Phe Gly Ser Trp
193         50                  55                  60
196 Leu Arg Glu Tyr Val Pro Glu His Pro Arg Arg Ala Tyr Leu Tyr Glu
197 65                  70                  75                  80
200 Ile Arg Ala Asp Gln His Phe Tyr Asn Ala Arg Ala Thr Gly Glu Asn
201             85                  90                  95
204 Leu Leu Asp Leu Met Arg Gln Arg Gln Val Val Phe Asp Ser Gly Asp
205             100                 105                 110
208 Arg Glu Met Ala Gln Met Gly Ile Arg Ala Leu Arg Thr Ser Phe Ala
209             115                 120                 125
212 Tyr Gln Arg Glu Trp Phe Ile Asp Gly Pro Ile Ala Ala Ala Asn Val
213         130                 135                 140
216 Arg Ser Ala Trp Leu Val Asp Ala Val Pro Val Glu Pro Gly His Ala
217 145                 150                 155                 160
220 His His Pro Ala Gly Arg Val Val Glu Thr Thr Arg Ile Asn Glu Pro
221             165                 170                 175
224 Glu Met His Asn Pro His Tyr Gln Glu Leu Gln Thr Gln Ala Asn Asp
225             180                 185                 190
228 Gln Pro Trp Leu Pro Thr Pro Gly Ile Ala Thr Pro Val His Leu Ser
229         195                 200                 205
232 Ile Pro Gln Ala Ala Ser Val Ala Asp Val Ser Glu Gly Thr Ser Ala
233         210                 215                 220
236 Ser Leu Ser Phe Ala Cys Pro Asp Trp Ser Pro Pro Ser Ser Asn Gly
237 225                 230                 235                 240
240 Glu Asn Pro Leu Asp Lys Cys Ile Ala Glu Lys Ile Asp Asn Tyr Asn
241             245                 250                 255
244 Leu Gln Ser Leu Pro Gln Tyr Ala Ser Ser Val Lys Glu Leu Glu Asp
245             260                 265                 270
248 Thr Pro Val Tyr Leu Arg Gly Ile Lys Thr Gln Lys Thr Phe Met Leu
249         275                 280                 285
252 Gln Ala Asp Pro Gln Asn Asn Asn Val Phe Leu Val Glu Val Asn Pro
253         290                 295                 300
256 Lys Gln Lys Ser Pro Phe Pro Gln Thr Ile Phe Phe Trp Asp Val Tyr
257 305                 310                 315                 320
260 Gln Arg Ile Cys Leu Lys Asp Leu Thr Gly Ala Gln Ile Ser Leu Ser
261             325                 330                 335
264 Leu Thr Ala Phe Thr Thr Gln Tyr Ala Gly Gln Leu Lys Val His Leu
265         340                 345                 350
268 Ser Val Ser Ala Val Asn Ala Val Asn Gln Lys Trp Lys Met Thr Pro
269         355                 360                 365
```

```
272 Gln Asp Ser Ala Ile Thr Gln Phe Arg Val Ser Ser Glu Leu Leu Gly
273     370             375             380
276 Gln Thr Glu Asn Gly Leu Ser Trp Asn Thr Lys Ser Gly Gly Ser Gln
277 385             390             395             400
280 His Asp Leu Tyr Val Cys Pro Leu Lys Asn Pro Pro Ser Asp Leu Glu
281             405             410             415
284 Glu Leu Gln Ile Ile Val Asp Glu Cys Thr Thr His Ala Gln Phe Val
285             420             425             430
288 Thr Met Arg Ala Ala Ser Thr Phe Phe Val Asp Val Gln Leu Gly Trp
289         435             440             445
292 Tyr Trp Arg Gly Tyr Tyr Tyr Thr Pro Gln Leu Ser Gly Trp Ser Tyr
293     450             455             460
296 Gln Met Lys Thr Pro Asp Gly Gln Ile Phe Tyr Asp Leu Lys Thr Ser
297 465             470             475             480
300 Lys Ile Phe Phe Val Gln Asp Asn Gln Asn Val Phe Phe Leu His Asn
301             485             490             495
304 Lys Leu Asn Lys Gln Thr Gly Tyr Ser Trp Asp Trp Val Glu Trp Leu
305         500             505             510
308 Lys His Asp Met Asn Glu Asp Lys Asp Glu Asn Phe Lys Trp Tyr Phe
309         515             520             525
312 Ser Arg Asp Asp Leu Thr Ile Pro Ser Val Glu Gly Leu Asn Phe Arg
313     530             535             540
316 His Ile Arg Cys Tyr Ala Asp Asn Gln Gln Leu Lys Val Ile Ile Ser
317 545             550             555             560
320 Gly Ser Arg Trp Gly Gly Trp Tyr Ser Thr Tyr Asp Lys Val Glu Ser
321             565             570             575
324 Asn Val Glu Asp Lys Ile Leu Val Lys Asp Gly Phe Asp Arg Phe
325             580             585             590
328 <210> SEQ ID NO: 3
329 <211> LENGTH: 591
330 <212> TYPE: PRT
331 <213> ORGANISM: Mycoplasma pneumoniae
333 <400> SEQUENCE: 3
335 Met Pro Asn Pro Val Arg Phe Val Tyr Arg Val Asp Leu Arg Ser Pro
336 1               5               10              15
339 Glu Glu Ile Phe Glu His Gly Phe Ser Thr Leu Gly Asp Val Arg Asn
340             20              25              30
343 Phe Phe Glu His Ile Leu Ser Thr Asn Phe Gly Arg Ser Tyr Phe Ile
344         35              40              45
347 Ser Thr Ser Glu Thr Pro Thr Ala Ala Ile Arg Phe Phe Gly Ser Trp
348     50              55              60
351 Leu Arg Glu Tyr Val Pro Glu His Pro Arg Arg Ala Tyr Leu Tyr Glu
352 65              70              75              80
355 Ile Arg Ala Asp Gln His Phe Tyr Asn Ala Arg Ala Thr Gly Glu Asn
356             85              90              95
359 Leu Leu Asp Leu Met Arg Gln Arg Gln Val Val Phe Asp Ser Gly Asp
360             100             105             110
363 Arg Glu Met Ala Gln Met Gly Ile Arg Ala Leu Arg Thr Ser Phe Ala
364         115             120             125
```

```
367 Tyr Gln Arg Glu Trp Phe Thr Asp Gly Pro Ile Ala Ala Ala Asn Val
368     130             135             140
371 Arg Ser Ala Trp Leu Val Asp Ala Val Pro Val Glu Pro Gly His Ala
372 145             150             155             160
375 His His Pro Ala Gly Arg Val Val Glu Thr Thr Arg Ile Asn Glu Pro
376             165             170             175
379 Glu Met His Asn Pro His Tyr Gln Glu Leu Gln Thr Gln Ala Asn Asp
380             180             185             190
383 Gln Pro Trp Leu Pro Thr Pro Gly Ile Ala Thr Pro Val His Leu Ser
384         195             200             205
387 Ile Pro Gln Ala Ala Ser Val Ala Asp Val Ser Glu Gly Thr Ser Ala
388     210             215             220
391 Ser Leu Ser Phe Ala Cys Pro Asp Trp Ser Pro Pro Ser Ser Asn Gly
392 225             230             235             240
395 Glu Asn Pro Leu Asp Lys Cys Ile Ala Glu Lys Ile Asp Asn Tyr Asn
396             245             250             255
399 Leu Gln Ser Leu Pro Gln Tyr Ala Ser Ser Val Lys Glu Leu Glu Asp
400             260             265             270
403 Thr Pro Val Tyr Leu Arg Gly Ile Lys Thr Gln Lys Thr Phe Met Leu
404         275             280             285
407 Gln Ala Asp Pro Gln Asn Asn Asn Val Phe Leu Val Glu Val Asn Pro
408     290             295             300
411 Lys Gln Lys Ser Ser Phe Pro Gln Thr Ile Phe Phe Trp Asp Val Tyr
412 305             310             315             320
415 Gln Arg Ile Cys Leu Lys Asp Leu Thr Gly Ala Gln Ile Ser Leu Ser
416             325             330             335
419 Leu Thr Ala Phe Thr Thr Gln Tyr Ala Gly Gln Leu Lys Val His Leu
420             340             345             350
423 Ser Val Ser Ala Val Asn Ala Val Asn Gln Lys Trp Lys Met Thr Pro
424         355             360             365
427 Gln Asp Ser Ala Ile Thr Gln Phe Arg Val Ser Ser Glu Leu Leu Gly
428     370             375             380
431 Gln Thr Glu Asn Gly Leu Phe Trp Asn Thr Lys Ser Gly Gly Ser Gln
432 385             390             395             400
435 His Asp Leu Tyr Val Cys Pro Leu Lys Asn Pro Pro Ser Asp Leu Glu
436             405             410             415
439 Glu Leu Gln Ile Ile Val Asp Glu Cys Thr Thr His Ala Gln Phe Val
440             420             425             430
443 Thr Met Arg Ala Ala Ser Thr Phe Phe Val Asp Val Gln Leu Gly Trp
444         435             440             445
447 Tyr Trp Arg Gly Tyr Tyr Tyr Thr Pro Gln Leu Ser Gly Trp Ser Tyr
448     450             455             460
451 Gln Met Lys Thr Pro Asp Gly Gln Ile Phe Tyr Asp Leu Lys Thr Ser
452 465             470             475             480
455 Lys Ile Phe Phe Val Gln Asp Asn Gln Asn Val Phe Phe Leu His Asn
456             485             490             495
459 Lys Leu Asn Lys Gln Thr Gly Tyr Ser Trp Asp Trp Val Glu Trp Leu
460             500             505             510
463 Lys His Asp Met Asn Glu Asp Lys Asp Glu Asn Phe Lys Trp Tyr Phe
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 04/07/2006
PATENT APPLICATION: US/10/573,909   TIME: 14:56:37

Input Set : **A:\9237.10WO.ST25.txt**
Output Set: **N:\CRF4\04072006\J573909.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:76; N Pos. 6,12,15,18,24,30,33,39,42,45,48,69,75,78,81,84,90,93,114
Seq#:76; N Pos. 117,120,129,132,135,147,150,153,159,162,165,168,171,177,186
Seq#:76; N Pos. 189,195,198,207,210,219,222,225,228,234,246,249,270,273,276
Seq#:76; N Pos. 279,282,291,294,300,306,312,318,321,330,333,339,348,357,363
Seq#:76; N Pos. 366,369,372,375,378,384,393,405,411,414,420,423,426,432,435
Seq#:76; N Pos. 438,441,447,450,456,459,462,465,471,474,480,489,492,495,498
Seq#:76; N Pos. 501,504,510,513,516,528,543,558,564,570,582,588,591,594,597
Seq#:76; N Pos. 600,606,609,612,615,621,624,630,636,639,642,645,648,654,657
Seq#:76; N Pos. 663,666,669,672,675,678,681,687,693,702,705,708,711,714,720
Seq#:76; N Pos. 729,732,735,747,771,777,780,783,792,795,798,801,810,819,822
Seq#:76; N Pos. 825,831,834,837,846,855,864,870,876,891,897,900,906,912,924
Seq#:76; N Pos. 927,933,939,957,966,975,984,987,990,993,1002,1005,1008,1011
Seq#:76; N Pos. 1014,1017,1023,1026,1035,1038,1044,1050,1056,1059,1062,1065
Seq#:76; N Pos. 1068,1071,1077,1080,1101,1104,1113,1116,1122,1131,1134,1137
Seq#:76; N Pos. 1140,1146,1149,1152,1158,1167,1170,1173,1176,1182,1188,1191
Seq#:76; N Pos. 1194,1197,1209,1215,1221,1224,1233,1236,1239,1245,1254,1266
Seq#:76; N Pos. 1278,1281,1287,1296,1299,1305,1308,1311,1314,1317,1326,1332
Seq#:76; N Pos. 1338,1341,1353,1356,1368,1371,1377,1380,1383,1389,1404,1407
Seq#:76; N Pos. 1413,1431,1437,1440,1455,1473,1482,1494,1506,1509,1515,1527
Seq#:76; N Pos. 1536,1587,1590,1599,1602,1608,1611,1614,1620,1623,1632,1641
Seq#:76; N Pos. 1650,1665,1671,1680,1683,1686,1689,1695,1698,1707,1710,1722
Seq#:76; N Pos. 1728,1734,1749,1752,1761,1770

Invalid <213> Response:
Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:6,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,30,31,33,35
Seq#:36,38,40,41,43,45,46,48,50,52,54,55,57,59,60,62,64,65,66,67,68,72,73,74
Seq#:75,76

VERIFICATION SUMMARY   DATE: 04/07/2006
PATENT APPLICATION: **US/10/573,909**   TIME: 14:56:37

Input Set : **A:\9237.10WO.ST25.txt**
Output Set: **N:\CRF4\04072006\J573909.raw**

```
L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:3786 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:0
L:3788 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:60
L:3790 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:120
L:3792 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:180
L:3794 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:240
L:3796 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:300
L:3798 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:360
L:3800 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:420
L:3802 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:480
L:3804 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:540
L:3806 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:600
L:3808 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:660
L:3810 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:720
L:3812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:780
L:3814 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:840
L:3816 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:900
L:3818 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:960
L:3820 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1020
L:3822 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1080
L:3824 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1140
L:3826 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1200
L:3828 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1260
L:3830 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1320
L:3832 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1380
L:3834 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1440
L:3836 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1500
L:3838 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1560
L:3840 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1620
L:3842 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1680
L:3844 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:1740
```